

-- REMARKS --

The present amendment replies to a Non-Final Office Action dated November 6, 2002. Claims 1-18 are currently pending in the present application.

In the Non-Final Office Action, Examiner Vu instructed the Applicant to provide a proposed drawing correction that designates FIG. 1 as "Prior Art". The Applicant is therefore concurrently filing a red-lined correction to FIG. 1 in accordance with Examiner Vu's instructions.

Also in the Non-Final Office Action, Examiner Vu rejected pending claims 1-18 on various grounds. The Applicant responds to each rejection as subsequently recited herein, and respectfully requests reconsideration and further examination of the present application under 37 CFR § 1.112:

- A. Claims 1, 2, 4, 5, 7, 8, 13, 16 and 18 were rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,623,187 to *Caldeira* et al.

The Applicant has cancelled claims 1-18 without prejudice or disclaimer to the subject matter of claims 1-18. Withdrawal of the rejection of claims 1, 2, 4, 5, 7, 8, 13, 16 and 18 under 35 U.S.C. §102(b) as being anticipated by *Caldeira* is therefore respectfully requested.

- B. Claims 3, 6 and 10 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,623,187 to *Caldeira* et al.

The Applicant has thoroughly considered Examiner Vu's remarks concerning the patentability of dependent claims 3, 6 and 10 over *Caldeira*. The Applicant has also thoroughly read *Caldeira*. The Applicant respectfully traverse this 35 U.S.C. §103(a) rejection of dependent claims 3 and 10, because Examiner Vu's proposed modification of *Caldeira* wherein the multiplier 61 illustrated in FIG. 14 of *Caldeira* is replaced by a summing circuit would render *Caldeira* unsatisfactory for its intended purpose.

Specifically, the multiplier 61 of *Caldeira* multiplies a lamp voltage V_L and a voltage V_i representative of a lamp current in order to obtain a voltage V_P representative of a lamp power. The lamp power voltage V_P is thereafter compared to a reference power signal with the objective of changing the duty ratio of a boost switch Q1 to regulate the bus voltage across RL1, RL2, which results in desired adjustment of the power delivered to the lamp. See, *Caldeira* at column 20, lines 14-21.

As is well known, a product of two numbers is different than a sum of the same two numbers except when both numbers are 2 (i.e., $2 \times 2 = 4$, and $2 + 2 = 4$). Thus, the only scenario where multiplier 61 and a summing circuit would generate lamp power voltage V_P at an identical magnitude is when both the lamp voltage V_L and lamp current voltage V_i were 2. Conversely, under every other scenario, a difference would exist between lamp power voltage V_P as generated by multiplier 61 (hereinafter "the product lamp power voltage V_{P1} ") and lamp power voltage V_P as generated by a summing circuit (hereinafter "the sum lamp power voltage V_{P2} "). Such a difference would render dissimilar results between a comparison of the product lamp power voltage V_{P1} to the reference power signal, and a comparison of the sum lamp power voltage V_{P2} to the reference power signal. Consequently, each and every adjustment to the duty ratio of the boost switch Q1 to regulate the bus voltage across RL1, RL2 based on a comparison of the product lamp power voltage V_{P1} to the reference power signal would be not be symmetrical to each and every adjustment to the duty ratio of the boost switch Q1 to regulate the bus voltage across RL1, RL2 based on a comparison of the sum lamp power voltage V_{P2} to the reference power signal. The Applicant therefore respectfully asserts that the power delivered to the lamp would be unsatisfactorily adjusted under the various objectives of *Caldeira* with a substitution of the summing circuit for the multiplier 61.

In lieu of amending independent claims 1 and 5 herein to include the limitations of dependent claims 3 and 10, respectively, the Applicant has cancelled claims 1-18 herein, added independent claims 19 and 36 directed to the limitations of cancelled claims 1 and 3, and added independent claim 23 directed to the limitations of claims 5 and 10.

The Applicant asserts that independent claim 19 and claims 20-22 depending from claim 19 are patentable, because neither *Caldeira* nor any other art of record discloses, teaches, or suggests “approximating a power to the lamp based on a sum of the lamp voltage and the lamp current” as recited in independent claim 19.

The Applicant asserts that independent claim 23 and claims 24-35 depending from claim 23 are patentable, because neither *Caldeira* nor any other art of record discloses, teaches, or suggests “a control circuit operatively connected to said current sensor and said voltage sensor, said control circuit for approximating a lamp power based a sum of the lamp voltage and the lamp current, comparing the approximated lamp power against a desired level, and regulating the power to the lamp based on the comparison “ as recited in independent claim 23.

The Applicant asserts that independent claim 36 is patentable, because neither *Caldeira* nor any other art of record discloses, teaches, or suggests “means for approximating a power to the lamp based on a sum of the lamp voltage and the lamp current” as recited in independent claim 36.

Withdrawal of the rejection of dependent claims 3, 6 and 10 under 35 U.S.C. §102(b) as being unpatentable over *Caldeira* and an allowance of claims 19-36 are therefore respectfully requested.



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SUMMARY

Examiner Vu's 35 U.S.C. §§ 102(b) and 103(a) rejections of claims 1-18 have been obviated by the cancellation of claims 1-18 herein. The Applicant has supported the patentability of new claims 19-36 by the above remarks concerning the patentability of cancelled dependent claims 3 and 10 over *Caldeira*. The Applicant respectfully submits that claims 19-36 fully satisfy the requirements of 35 U.S.C. §§ 102, 103 and 112. In view of the foregoing, favorable consideration and early passage to issue of the present application is respectfully requested.

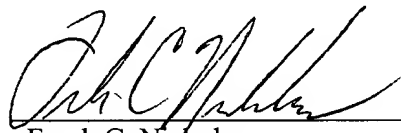
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Respectfully submitted,
CHARLES B. MATTAS, *et al.*

U.S. PHILIPS
580 White Plains Road
Tarrytown, New York 10591
Phone: (914) 333-9634
Fax: (914) 332-0615

Robert J. Kraus
Registration No. 26,358
Attorney for Applicants

CARDINAL LAW GROUP
Suite 2000
1603 Orrington Avenue
Evanston, Illinois 60201
Phone: (847) 905-7111
Fax: (847) 905-7113


Frank C. Nicholas
Registration No. 33,983
Attorney for Applicants

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